

XXII.—*Additions to the Fauna of Ireland.* By WILLIAM THOMPSON, Esq., Pres. Nat. Hist. and Phil. Society of Belfast\*.

[Continued from p. 176.]

## CRUSTACEA.

Order *Decapoda.*1. *Stenorhynchus tenuirostris*, Leach.

On examining some fine *Stenorhynchi* dredged in Belfast bay from a depth of twenty to twenty-three fathoms (shelly sand) in Oct. 1846 by Mr. Hyndman, I found that like specimens obtained there, but from a much less depth, some years before, had more characters in common with this species than with *S. phalangium*. The rostrum, though longer than in the latter—three lines in length in a specimen whose carapace from its base to the hinder extremity is ten lines—is not of the extreme length of that of *S. tenuirostris*:—instead of being “longer than the peduncle of the external antennæ,” it is not so long. But “the series of minute spines on the inner part of the arm, the body altogether more elongated, and the spines more acute” than in *S. phalangium*, mark my specimens as *S. tenuirostris*.

The preceding notes were made on a comparison of these examples with the descriptions of Leach and Bell. Having subsequently taken specimens to London and compared them with those in the British Museum described by Leach, the result was the same. I therefore look upon *S. tenuirostris* and *S. phalangium*—although extreme forms are very distinctly marked—to be in reality but one species. It may be added, that in one of the two Irish examples of what I have called *S. tenuirostris* taken to the British Museum, the wrist has the form attributed to that species, and in the other, that attributed to *S. phalangium*. Both of these individuals were added to that collection. The *Sten. Egyptius*, Edw., it need hardly be remarked, is quite different from those under consideration; it is alluded to in consequence of being the only other species of the genus.

\* *Teredo malleolus*. I hasten to correct an error respecting the species so called at p. 163 and p. 174. The opercula or pallets having since been found, prove that it is not *T. malleolus*. They are quite similar to those of the *T. bipalmulata* of Delle Chiaje, Mem. iv. t. 54. f. 22 and 23, and approximate those of the species (*T. palmulatus*, Lam.) considered the same by Philippi, in the first vol. of his ‘Enum. Moll. Siciliæ,’ t. 1. f. 8; but if the shells there figured represent perfect specimens, my species differs from his. The genus *Teredo* seems to require a rigid revision. Having sent specimens to Professor E. Forbes and Mr. Hanley, who possess in London much better means of working out the subject than I have, the positive identification of the species is left to them. The genus *Teredo* will I believe be included in the 1st part of their ‘History of British Mollusca,’ to appear in November. Mine is at all events a form now noticed for the first time as introduced by shipping to any port of the United Kingdom.

*Erratum in note to p. 161.*—Instead of “The name is I believe unpublished,” it should be—The name was I believe left unpublished by Dr. Leach.

The questions occur :—is the *S. tenuirostris* a deep-water, a local, or a geographical variety? The following remarks, though all that can be given, have not any very definite bearing on these points. Leach mentions it as a very common inhabitant of all the deep water off the coast of South Devon. Couch in his 'Cornish Fauna,' part 1. p. 64, states that it is "common at the depth of from two to twenty fathoms\*." M. Edwards says of *S. longirostris*†, Fabr. (sp.), which he makes synonymous with *S. tenuirostris*, Leach—but Mr. Bell thinks that they may be distinct—that it inhabits the Manche and the Mediterranean.

*S. phalangium* is noted by Leach as "very common in the mouths of rivers and in estuaries." Couch has never met with it on the coast of Cornwall. M. Edwards notes it as very common on the coasts of the Manche and the Ocean.

## 2. *Eurynome scutellata*, Risso.

A specimen of *Eurynome* dredged on the same occasion as the last species having exhibited the tubercles on the cardiac region—the ten noticed by Bell, p. 47, as ranged round the central one—massed together in the form of a shield or escutcheon, and the series anterior to them on the central line (longitudinally) of the carapace having presented a similar appearance, suggested the specimens being the *E. scutellata*, Risso. This indeed was rather indicated by the name of the species than by any particular definition in the description of it :—"De petits écussons arrondis, rouge et jaune pâle, couvrent le test de ce joli crustacé‡." On examining other specimens in my collection and finding great diversity as to the isolation and approximation of the tubercles so as to form shields in the different individuals, I became certain that the *E. aspera* and *E. scutellata* are but one species, the latter being a state of the former with the tubercles drawn together so as to form shield-like patterns. The shields in all the specimens examined, except the first-mentioned, show that they are formed by the junction of the tubercles : in it however no trace of the separate tubercles is visible, but instead, the five on either side the central one on the cardiac region are all fused together. Those forming the smaller shield anterior to it are likewise fused together so as to leave no trace of the number of tubercles forming it.

Having understood that my friend Professor Bell had authentic specimens of *E. scutellata* from the Mediterranean, I compared my specimens with them, and found a perfect identity as to species. He had considered the *E. scutellata* as distinct, but when my reasons

\* *S. phalangium* proper is taken in the north of Ireland within this range of depth.

† The only character given for this species in M. Edw. 'Hist. Crust.' vol. i. p. 280, is that the rostrum exceeds in length the peduncle of the external antennæ.

‡ Risso, 'Hist. Nat. de l'Eur. Mérid.' vol. v. p. 21. M. Edwards considered the *E. scutellata* to be so unsatisfactorily described that he could make nothing of it. (Hist. Crust. vol. i. p. 352.) The figure too is execrable.

for considering *E. aspera* and it but as one species were explained, he at once on examination of the specimens coincided in my opinion. The reduction of these two supposed species to one, leaves *E. aspera* the only representative of the genus *Eurynome*.

3. *Gebia deltura*, Leach, Malac. t. 31. f. 9, 10; Bell, Brit. Crust. p. 225 (part 5); Edw. vol. ii. p. 314.

In the stomach of a Haddock (*Gadus Æglefinus*) taken off Newcastle (co. Down) on the 6th March 1847, I was interested in finding two perfect arms of this rare fossorial species, hitherto known to have been obtained only on the coast of Devonshire\*. They are just of the size represented by the authors quoted. The stomach of the fish was with the exception of them filled with the remains of *Ophiura texturata*. It was from the same locality that I obtained the arms—and these only—of the two other fossorial genera *Callianassa* and *Calocaris* in March 1839. The reason of these parts alone of the animal being taken may perhaps be owing to their being above the surface of the bank, ready to lay hold of any food within their reach, while the body remains concealed, and the ground-feeding fish seizing on them, the Crustacean sacrifices its exposed members rather than give up its whole body to its assailant.

Professor Bell remarks:—"The difference of the depth which the various species of this fossorial family inhabit is very remarkable; the present species [*Gebia stellata*] with *Callianassa subterranea* being found in a sand-bank, when digging for *Solenes*, whilst *Calocaris Macandreae* was dredged from the astonishing depth of 180 fathoms." (Hist. Brit. Crust. p. 224.)

The difference here noticed is interesting insofar as the facts narrated, but can scarcely be considered characteristic of the respective species. My specimens of *Callianassa* and *Calocaris*, if not taken from the stomach of the same individual fish, a *Platessa pola*, Cuv., were procured from two fishes of that species taken at the same sweep of the trawl-net on the same bank at a depth of ten fathoms. The *Gebia* was probably taken at a similar depth.

#### NOTE.

? *Alauna rostrata*, Goodsir, Edin. New Phil. Journ. vol. xxxiv. p. 130. pl. 4?

The occurrence of an individual of this species to me at Newcastle (co. Down) in Aug. 1836 was noticed in the 'Annals,' vol. xiii. p. 435, accompanied by a mark of doubt as to the species. When lately looking over some Crustacea dredged from five fathoms at the Skerries on the Dublin coast, in the autumn of 1845, by Mr. R. Ball and Professor Edw. Forbes, I was gratified to see several specimens quite similar to the one that I had myself taken. They are about

\* No observation of this kind is hazarded with respect to any species, without reference having been made to the general 'Hist. des Crust.' of M. Edwards. It has supplied the data with respect to continental works, on which all such remarks are made in this communication.

six lines in length, and agree in all respects with Goodsir's description, but present at the same time a striking character which he has not noticed—in the carapace being almost wholly covered by series of minute granular spines (if such an expression may be used) with the points directed forward, and hence my “?” as to species. The describer of *Alauna* obtained but the one specimen.

#### Order *Stomapoda*.

4. *Cynthia* — ? Thomp. (J. V.), Zool. Res., Memoir 3, p. 55 ;  
Edw. vol. ii. p. 462.

Among some of the more minute Crustacea taken at Strangford lough in May 1840 by Mr. R. Patterson is a *Cynthia*, but hardly sufficiently perfect to be determined. The species on which the genus was founded was taken between Madeira and Barbadoes. Mr. H. Goodsir added the genus to the British fauna from examples obtained on the east coast of Scotland.

5. *Themisto*\* *brevispinosa*, Goodsir, Edin. New Phil. Journ. vol. xxxiii. p. 177. pl. 2. f. 9.

In September 1835 I obtained an individual of this species in rock-pools between tide-marks at Bangor, co. Down.

#### NOTE.

- Mysis chamaleon*, Thomp. (J. V.), Zool. Res., Memoir 2, pl. 2. f. 1—10.

The first examples described under this name were obtained in the harbour of Cork. Specimens from each side of the island have come under my notice. At Bangor, within the entrance of Belfast bay ; Ballywalter, on the open coast of Down (both strictly marine localities) ; in Dundrum bay, same county (in brackish water) ; and in the tidal river Lagan at Belfast ; I found them common in the summer or autumn of 1835 and 1836. In the three first-named places they were taken between tide-marks ; in rock-pools in the two first, and in a sandy bay in the last. I have seen it among Crustacea brought up in the dredge in water five fathoms deep off the Dublin coast by Mr. R. Ball ; have received it from the west coast of Cork (Professor G. J. Allman), and have taken it myself along the shores of Connaught. A detailed note of June 22, 1846, is as follows. When in company with Mr. Hyndman today at Strangford lough, I took a number of this species (which is admirably figured in the work quoted) in brackish water at Ardmillan. They were in extraordinary profusion, and viewed in the water were at first sight mistaken for the fry of fish †. They appeared to be all about the same size, and

\* This was used as a generic name by Guérin previous to its publication as such by Goodsir. Guérin's genus belongs to the order *Amphipoda* and family *Hyperiadæ*. *Macromysis* is substituted by Mr. Adam White for Goodsir's *Themisto* in the Catalogue of the Crustacea in the British Museum, p. 81.

† I have generally remarked the *Mysis* to be much more numerous where fresh-water enters the sea than in pure sea-water.



adult, as were the specimens taken, the largest exceeding  $1\frac{1}{4}$  inch in length from point of anterior scales to end of the caudal plates.

Mr. J. V. Thompson remarks that *M. chamaeleon* "has never been observed like the other species in any great numbers together, but scattered and solitary, often associated with *M. vulgaris*," p. 29. But where they came under my observation in this instance, a small arm of the lough a few feet in depth presented the extraordinary spectacle of being quite alive with them. They were all swimming in one direction, towards the sea, and moving regularly and horizontally onward.

It is difficult, owing to the figure being deficient in elaboration, to judge whether or not Montagu's *Cancer astacus multipes*, Linn. Trans. ix. (p. 90) pl. 5. f. 3, be this species, but I agree with Mr. J. V. Thompson that the *Cancer flexuosus*, Müll. Zool. Dan. vol. ii. p. 34. pl. 66, is so. M. Edwards (Hist. Crust. vol. ii. p. 458) observes, that spines are represented on the sides of the abdomen in Müller's figure of *M. flexuosus*, but although such an appearance is presented in the plate, surely it is the mere setæ of the subabdominal fins which are intended to be represented. The specimens taken on this occasion were all of one hue, as the millions in the water seemed to be; this was a very pale olive or "pellucid cinereous," as ascribed to the *M. Leachii* by Mr. J. V. Thompson, from which they differed only in having black instead of "reddish rust-coloured" spots. Each segment of the body in every specimen examined (about thirty in number) is marked with a round black spot, whence, in some, arborescent arms branch off; in others there is no arborescent appearance, but the segment is dotted regularly over with extremely minute points. To

*Mysis vulgaris*, J. V. Thomp. *ibid.* p. 30. pl. 1,

my attention was first directed by remarking among those captured, individuals wanting the black spot on the segments of the body, when, singling out three of these, they proved to be of this species—all the others were *M. chamaeleon*. The segments however exhibit an arborescent veining, though wanting the black central spot. These specimens are one inch in length, or one-fifth less than the largest *M. chamaeleon* taken with them. If the proportion of the one species to the other in the myriads seen were as in those taken, the numbers of *M. vulgaris* to the other were but as one to ten. Some of these (*M. vulgaris*) produced young in the phial, like those represented by Müller in the 'Zoologia Danica,' pl. 66, and by Kroyer in the 'Voyages Scandin. et Lapon. Crustaces,' pl. 9.

*Ballyhome, Belfast bay*, July 4, 1846. From the rocks at the entrance of this bay I captured in pure sea-water a number of the *Mysis* of various sizes, all of which proved to be *M. chamaeleon*. The extraordinary difference in colour of these specimens, all taken together within the space of a few yards, well justified the specific name. They were brown, green, pink, red, and hyaline, some as transparent in colour as the water itself: a few displayed a whitish longitudinal stripe down the back. With the view to a more par-

ticular examination of the colours at home, they were placed in a phial of sea-water, but were all dead on my arrival there a few hours afterwards. Of the many species of the more minute forms of Crustacea which I have preserved in spirits, the *Mysidæ* were always among the first to become soft and to decay. The specimens under consideration, when examined in spirits, exhibited on each segment of the body a black spot, whence more or less of an arborescent appearance was manifest.

*M. chamæleon* has occurred to me much more frequently as well as in greater numbers on the Irish coast than *M. vulgaris*. In very shallow pools between tide-marks at Lahinch (co. Clare) the latter was procured by Professor E. Forbes and myself. It frequents the tidal river Lagan at Belfast.

#### Order *Amphipoda*.

##### 6. *Orchestia*, sp.

Bangor, co. Down, 1835, W. T. ; distinct from *O. littorea*.

7. *Amphithöe fucicola*, Leach (sp.) ; Edw. vol. iii. p. 32. *Pherusa fucicola*, Leach, Linn. Trans. xi. p. 360.

Obtained many years ago at Youghal by Mr. R. Ball. Leach only appears to have noticed this species: he remarks, "Habitat inter fucus in Damnoniæ australis mari rarius."

##### 8. *Amphithöe rubricata*, Mont. (sp.) ; Edw. vol. iii. p. 33.

Procured in Strangford lough in Oct. 1839 by Mr. Hyndman and myself. In shallow rock-pools between tide-marks on the open coast at Springvale, co. Down, I obtained several specimens in July 1846. Previously noticed only as found on the south coast of Devon by Montagu.

##### 9. *Amphithöe*, sp.

Bangor, co. Down, 1835, W. T. ; distinct from the preceding and *A. obtusata*, on comparison with the specimens in the British Museum.

##### 10. *Gammarus marinus*, Leach ; Edw. vol. iii. p. 46.

Strangford lough, 1837, Mr. Hyndman and W. T. ; Ballysodare, co. Sligo, Mrs. Hancock.

Noticed by Leach as found on the south coast of Devonshire and by M. Edwards on the coast of France.

##### 11. *Gammarus campylops*, Leach ; Edw. vol. iii. p. 48.

Taken at high water in the tidal river Lagan, above the bridge at Belfast, May 1836, Mr. Hyndman and W. T.

Shore of Loch-Ranza, Isle of Arran, where the species was discovered by Leach, the only locality hitherto noticed.

12. *Gammarus longimanus*, Leach (sp.). *Mæra longimana*, Leach MSS.

A single one taken with last:—same as Leach's unique specimen in the British Museum.

13. *Gammarus punctatus*, Johnst. Zool. Journ. vol. iii. pp. 177, 490, I found in a case formed by itself among the branches of *Corallina officinalis* growing in pools between tide-marks at Springvale, co. Down, in July 1846. The species was determined by comparison of mine with those from Berwick presented by Dr. Johnston to the British Museum.

14. *Opis typica*, Kroyer, Voy. Scandinavie et Laponie Crust. pl. 17. f. 1.

Dredged in Strangford lough, Oct. 1839 and June 1846; on the latter occasion picked off Algæ brought up from a depth of fifteen to twenty-three fathoms, where they grew on soft sandy ground—several specimens procured on each occasion.

A description of this species appears in Kroyer's 'Naturhist. Tidssk.' 2nd binds, 1st hæfte, 1846, p. 46.

15. *Anonyx* (Kroyer), sp.

Several specimens of an *Anonyx* of various sizes were dredged from five to six fathoms' depth—pure sandy bottom—off Bangor, Belfast bay, in July 1846, by Mr. Hyndman and myself. They are distinct from and more elegant in form, colour and markings than any of the seven species—*A. nanus*, *littoralis*, *ampulla*, *holbollii*, *plautus*, *Edwardsii*, *tumidus*—represented by Kroyer in such parts of the 'Scandinav. et Lapon.' as were in the British Museum library in July 1847\*.

They are all plain or uniform in colour, while mine has conspicuous stellate markings; it is also of a somewhat deeper tint generally, and has the antennæ longer than any of those named.

Although a proper description cannot (on account of the state of my eyes) be drawn up, some idea may be given of this *Anonyx*—(which is well worthy of the name of *elegans*)—by the following note:—length of body 6 lines; of upper antennæ 1 line; of lower antennæ 4 lines; general colour yellowish pink; eyes red; lateral or abdominal plates adorned with scarlet stellate markings, of which there are five or six on those nearest the head: they become gradually fewer on those towards the tail, so that not more than one appears on the hinder plates. These markings render it very beautiful. My *Anonyx* is distinct from a British species (locality unknown) in the collection of the British Museum. As this is not included in the lately published Catalogue of the Crustacea therein contained, the present is the first notice of the genus as British.

16. *Anonyx*, genus ?,

or rather a form between it and *Stegocephalus*, Kroyer, was dredged from a depth of twenty-three fathoms (shelly sand) in Belfast bay in Oct. 1846 by Mr. Hyndman.

\* Since the above was written, Kroyer's 'Naturhist. Tidssk.' for 1846 has come under my notice, and in it ten species of *Anonyx*, including the seven already named, are described (in *Latin*): the additional species are *A. gulosus*, *A. minutus*, and *A. Vahlîi*.

17. *Cerapus falcatus*, Mont. (sp.), Linn. Trans. vol. ix. t. 5. f. 2.  
*Jassa pelagica*, Leach.

I agree with M. Edwards (vol. iii. p. 61) in considering the forms bearing these two names as one species: Leach looked upon them as different. Both, as distinguished by the form of the claw, are among my specimens, of which a number were dredged in Strangford lough in Oct. 1839 by Mr. Hyndman and myself. Among the roots of a large plant of the tangle (*Laminaria digitata*) brought me from Donaghadee by Edmund Getty, Esq., in Aug. 1846, were several specimens.

Devonshire (Mont.) and the Bell Rock (Leach) are the only published localities I have seen for this species.

18. *Hyperia galba*, Mont. (sp.); Edw. vol. iii. p. 77.  
*Cancer Gammarus galba*, Mont.

Found in the pouches of *Rhizostoma Cuvieri* on the Dublin coast in the autumn of 1838 by Mr. Hyndman.

Only noticed by Montagu as found on the south coast of Devon.

19. *Hyperia Latreillii*, Edw. vol. iii. p. 76.

Obtained at Youghal by Mr. R. Ball nearly thirty years ago ("about 1818") in great numbers in the cavities of a *Rhizostoma*. This species has not been noticed by any English author, but specimens of Leach's marked "British coast" are in the British Museum. M. Edwards mentions it as found on the coast of France\*.

20. *Lestriginus*, sp.

An individual of this genus is in the same phial with the last, and was probably obtained from the cavities of the same *Rhizostoma* with them. It has become so soft in the spirits from incipient decay as barely to admit of specific description. With respect to the genus, I have the opinion of Mr. Bell in addition to my own. Of the two species of this genus described, one is from India, the other from Greenland. (Edw. Hist. Crust. vol. iii. p. 82.)

#### Order *Læmodipoda*.

21. "*Caprella lobata*, Müll.," Kroyer, Voy. Scand. et Lapon. Crust. pl. 25. f. 3a†.

Specimens attached to zoophytes (*Sertulariæ* chiefly) dredged from about ten fathoms on sand near Portaferry, Strangford lough, Oct. 1839, Mr. Hyndman and W. T.

22. *Caprella tuberculata*, Goodsir, Edin. New Phil. Journ. vol. xxxiii. p. 188. pl. 3. f. 6.

Specimens taken with the last.

\* The species of these *Hyperia* were determined as above by Mr. Adam White. On my subsequent examination of *H. galba* insofar as I dare magnify the specimen, it seemed to be a *Metæcus*, Kroyer (which Montagu's may likewise be), but whether *M. medusarum* I had not the means of determining. The subject must be further examined into.

† 3 b. presents a very different form, but is considered a variety only.



Guérin, in his 'Iconographie,' &c. pl. 28. f. 1, represents a species which he calls by this name; it is from the Mauritius (Texte Descrip. Crust. p. 24).

23. *Caprella acuminifera*, Leach; Edw. vol. iii. p. 107. pl. 33. f. 21—26.

I found a few examples of this species living among *Corallina officinalis* in shallow rock-pools between tide-marks at Springvale, co. Down, in July 1846.

24. *Ægina? longispina*, Kroyer, Voy. Scand. &c. Crust. pl. 19. f. 3\*.

A single individual of this very fine, large and spinous form was taken with the two first-noticed *Caprellæ*. My specimen differs only from that represented by Kroyer in having one or two more spines retrally on the body: it is wholly red like his, and has retained this colour in spirits to the present time. Goodsir's *Caprella spinosa* (Edin. New Phil. Journ. vol. xxxiii. p. 187. pl. 3. f. 1) approaches very near to this species, if it be not the same; it is described as having "the whole body of a pale white colour." *Caprella linearis* of authors (already recorded as Irish) was taken with this as well as *C. lobata* and *C. tuberculata*.

I have merely identified my *Caprellæ* with the species described, and without any attention being bestowed on the variety of form that the same species may assume. Indeed the only attempt to investigate this subject known to me is that of Kroyer with respect to *C. lobata*:—see my note under this species.

#### Order *Isopoda*.

25. *Tanais Dulongii*, Audouin (sp.); Edw. vol. iii. p. 142.

Two Crustaceans which I found on *Alaria esculenta* washed ashore at the Giant's Causeway in July 1839, seem so like this species as figured in the great French work on Egypt, that I am disposed (in which Mr. Adam White agrees with me) to consider them the same. They do not exhibit any point of difference, but are not quite perfect. The second species of *Tanais* described by M. Edwards is from Naples. M. Kroyer has described three species in the 'Isis,' one of which is from Bahia, and the other two from Madeira.

26. *Jara albifrons*, Mont. (sp.); Leach; Edw. vol. iii. p. 150.

Common under stones in shallow rock-pools between tide-marks at Bangor, Belfast bay (1834, W. T.), and in Strangford lough, both strictly marine localities—also obtained in the tidal river Lagan at Belfast. Known only hitherto as found on the coast of Great Britain.

27. *Sphæroma Prideauxiana*, Leach.

An example of this species, taken in a towing-net where the water

\* Described in Kroyer's 'Naturhist. Tidssk.' 1st binde, 5th hæfte, 1845, p. 476.

was several fathoms in depth in Belfast bay in August 1846 by Mr. R. Patterson, was brought to me alive. Its colour was pale brown with dark brown markings; its motions when undisturbed were lively—when touched, it rolled itself into a ball.

My specimen, which on comparison with the original one from "Devon" (where only it has yet been noticed) in the British Museum, must be considered this species, at the same time cannot be said to differ from *S. curtum* (a view in which Mr. Adam White coincides):—it is intermediate in size, form, &c. between the individual examples of the two species in that collection. M. Edwards offers some remarks on the difficulty of distinguishing *S. curtum* from Leach's description (Hist. Crust. vol. iii. p. 209).

28. *Spharoma Griffithsii*, Leach MSS.? Brit. Museum Catal. p. 103.

Three *Spharomæ* obtained in Belfast bay and Strangford lough (1835, &c.) are similar to the two poor original specimens from Torbay, so named in the British Museum, excepting in the caudal plate being rather more rounded in my specimens\*.

29. *Cymodocea truncata*, Mont. (sp.); Edw. vol. iii. p. 214.

Two examples procured between tide-marks at Cultra and Rockport, Belfast bay, Mr. Hyndman and W. T., 1837. Leach remarks that the species is found amongst Fuci and is very rare: Edin. Ency. vii. 433. Mine agree with his specimen from Devon (the only known locality) in the British Museum.

30. *Cirolana hirtipes*, Edw. vol. iii. p. 236. pl. 31. f. 25.

My specimens are similar to those so named in the British Museum (but whence these were obtained is unknown), and agree with the description and figure of M. Edwards, whose only locality indicated for the species is the Cape of Good Hope! The first individuals which came under my notice were found in the midst of a mass of ova in a boiled cod-fish sent me from Portpatrick about ten years since by Lieut. Little, R.N. In September 1841, several found adhering to a skate (*Raia batis*) taken in Belfast bay, were brought to me by Mr. Hyndman. I have also procured it on the gills and once alive in the stomach of a holibut (*Hippoglossus*) from the last-named locality. It was enumerated in my 'Report' under the name of *Cirolana Cranchii*, the only known British form of the genus.

31. *Eurydice pulchra*, Leach; Edw. vol. iii. p. 238.

This pretty species has been taken at Larne by Mr. R. Patterson (1838) and at Carrickfergus, between tide-marks, by Mr. Hyndman (March and April). Bantham, Devon, the original locality (Leach, Linn. Trans. xi. 370), appears to be the only one yet noticed for *E. pulchra*.

\* See Guérin, Iconog. Règne Anim. Crust. texte descriptif, p. 27, for remarks on *Spharoma serratum*, Fabr. (sp.), and *S. globator*, Pall. (sp.) as two distinct species.

32. *Munna Kroyeri*, Goodsir, Edin. New Phil. Journ. vol. xxxiii. p. 365. pl. 6. f. 2.

Taken in a towing-net on the surface of Strangford lough in May 1840 by Mr. R. Patterson.

The genus *Munna* was described by Kroyer in 1841, and Mr. Goodsir's *M. Kroyeri* was obtained in July 1842 in the Firth of Forth.

Legion *Entomostraca.* Order *Copepoda.*

33. *Cetochilus septentrionalis*, Goodsir, Edin. New Phil. Journ. vol. xxxv. p. 336. pl. 6. f. 1—11.

Many of this species were taken with the last in May 1840 :—in October 1843 this *Cetochilus* was described by Mr. Goodsir.

34. *Canthocarpus minuticornis*, Müll. (sp.) *Cyclops minuticornis*, Müll.

Obtained in Strangford lough, Oct. 1839, Mr. Hyndman and W. T.

Order *Siphonostomata.*

35. "*Caligus minutus*, Otto, Nordm.;" Edw. vol. iii. p. 450, and Règ. Anim. pl. 77. f. 2.

I obtained a specimen off a holibut in Belfast market in February 1837. It differs very little—hardly in species—from *C. hippoglossi*, Kroyer, Tidssk. bind i. p. 625. pl. 6. f. 3 (1st series).

M. Edwards notes the species as found on the coast of Bretagne in the branchial cavity of the "Bars" [Basse. *Labrax lupus*, Cuv.].

36. *Caligus curtus*, Kroyer, Tidssk. 2 bind, tab. 104. pl. 1. f. 1 m.

On *Raia maculata* taken in Belfast bay, April 1839, W. T. See M. Edwards, 'Hist. Crust.' vol. iii. p. 451, for remarks on *C. curtus*, Müll. &c.

37. *Caligus diaphanus*, Nordm., Kroyer, bind ii. pl. 1. f. 3. (Reference to pl. 1 at p. 104.)

Nordmann obtained this species off *Trigla hirundo*. I have procured it not only on that fish but on the following, purchased in Belfast market :—*Trigla pini*, *Pagellus centrodontus*, *Scomber scombrus*, *Caranx trachurus*, *Merlangus carbonarius*, *Merluccius vulgaris*, *Lota molva*, *Platessa vulgaris* and *Pleuronectes maximus*. The specimens were taken in March, August, October and December (1837).

M. Edwards (vol. iii. p. 452) refers only to the above-cited authors for this species.

38. *Caligus pectoralis*, Kroyer, Tidssk. bind i. p. 628. pl. 6. f. 4.

M. Edwards notices this as found on turbot, plaice and other flat-fishes (vol. iii. p. 454). I have procured it on *Platessa fesus*, *P. limanda*, *Solea vulgaris*, *Scomber scombrus*, *Zeus faber* and *Conger vulgaris*, brought to Belfast market in March 1837 : they adhered to all the exposed parts of the body of the various fishes, and not to the gills, &c.

This species is brought under the genus *Lepeophtheirus* by Nordmann (Mikrog. Beitrage, p. 30), but Kroyer writing on it subsequently calls it *Caligus*. M. Edwards marks Müller's *Lerneæ pectoralis*, Zool. Dan. tab. 33. f. 7, with doubt as being identical with that of the two authors quoted.

39. *Caligus Nordmanni*, Edw. vol. iii. p. 455. and Règ. Anim. pl. 77. f. 1,

I have procured on *Gadus morrhua* brought to Belfast market in March, November and December 1837. M. Edwards notes this species as found at Nice on the skin of a "Mole" [*Orthogoriscus mola*].

40. *Caligus vespa*, Edw. vol. iii. p. 456,

I have found on *Salmo trutta* taken in Dundrum bay (co. Down), Aug. 1836, and on the same species captured in the sea at Donaghadee in March; on *Salmo eriox* from the latter locality in Dec.; on *Salmo salar* taken on ascending two of the co. Antrim rivers from the sea in June and July. M. Edwards indicates this species merely as found in the gills of a salmon. *C. vespa* was noticed this year for the first time as found on the English coast. See British Museum Crust. p. 118.

41. *Caligus sturionis*, Kroyer, Tidssk. bind i. tab. 6. f. 6. ("Explication" of tab. p. 628); Edw. vol. iii. p. 457\*—

I obtained on *Trigla hirundo* and *T. pini* brought to Belfast market in November 1839.

42. *Trebius caudatus*, Kroyer, Tidssk. bind ii. p. 30. tab. 1. f. 4. (Explication of tab. p. 104); Edw. vol. iii. p. 458\*.

This truly generic form was obtained by Kroyer on a *Squalus galeus* taken in the Kattegat. My specimens—both male and female—were found adhering externally over both sides of the body of a *Raia batis* captured in Belfast bay in September 1838.

#### Order *Lerneada*.

43. *Chondracanthus gibbosus*, Kroyer, Tidssk. bind i. p. 252. tab. 2. f. 4.

Taken in the pouches of a *Lophius piscatorius* in Dublin, December 1839 (W. T.), and from pouches of three individuals captured in Belfast bay, November 1841. M. Edwards brings this species with doubt under *C. Delarochiana* (Cuv. Règ. Anim.), which has been found on the tunny, *Thynnus vulgaris*. *C. Lophii*, Johnston, London's 'Mag. Nat. Hist.' ix. 81. f. 16, already recorded in the 'Annals' (vol. v. p. 257) as Irish, seems to me identical with *C. gibbosus*, Kroyer.

44. *Lernæopoda galei*, Kroyer, Tidssk. bind i. tab. 3. f. 5, *a-f*; Edw. vol. iii. p. 516\*—

was found by its describer on the fin of a *Squalus galeus*, Linn.;

\* Kroyer only quoted.



on which species from Belfast bay I likewise obtained my specimen in December 1839 :—it was adherent to the cavity posterior to the vent of the fish.

Order *Pycnogonida.*

45. *Nymphon femoratum*, Leach, Zool. Misc. vol. i. p. 45. tab. 19. f. 2.

Dredged from eight to ten fathoms at Donaghadee in May 1843 by Dr. J. L. Drummond.

Leach only is quoted by M. Edwards, vol. iii. p. 534, for this species, who notes it however as inhabiting "La Manche."

46. *Phoxichilidium globosum*, Goodsir, Edin. New Phil. Journ. vol. xxxii. p. 136. pl. 3. f. 1, January 1842,

I obtained among zoophytes thrown ashore at Portmarnock, on the Dublin coast, in Aug. 1840. This species was only known to its describer as taken in Orkney by Mr. Edw. Forbes and Mr. John Goodsir.

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The following brief summary of the *Crustacea* contained in the preceding list may be desirable.

There are introduced for the first time to the fauna of the British seas, the *generic* forms of *Opis*, *Anonyx*\*, and allied genus, *Lestrigonus*, *Ægina*?, *Tanais*, *Trebius*, *Lernæopoda*; and the *specific* forms of *Eurynome scutellata*, *Cirolana hirtipes*, *Caligus minutus*, *C. curtus*, *C. diaphanus*, *C. pectoralis*, *C. Nordmanni* and *C. sturionis*. A number of undetermined species, and some of them certainly non-descript, are still in my possession.

Of *generic* forms added to the Irish fauna (but all included in the British) there are *Amphithœ*, *Cerapus*, *Themisto* (*Macromysis*), *Cynthia*, *Jæra*, *Eurydice*, *Cymodocea*, *Munna*, *Cetochilus*, *Canthocarpus* and *Phoxichilidium*.

The mere *species* added to the Irish fauna possess various interest, as indicated in noticing them respectively. My specimens of several forms were the first obtained, having been procured some years before those from which the original descriptions were drawn up by M. Kroyer and Mr. H. Goodsir.

Some of the species here brought forward have hitherto been noticed only as found in the Mediterranean†, others in the seas of Denmark, and several as met with only at a single locality on the English or Scottish coast; all information of this kind possesses much interest as exhibiting insofar the geographical range of the species.

Without the kind aid of Mr. Adam White and Dr. Baird of the British Museum, who assisted me in the determination of the species from comparison with those contained in the national collection and otherwise, I should not have ventured to publish this communication.

\* See *ante*.

† One (*Cirolana hirtipes*) as from the Cape of Good Hope! but further information is desiderated respecting it.

Without the confirmation of stronger eyes and better knowledge than I myself possess, I could not feel satisfied in recording any species of *Crustacea* that can only be determined by microscopic power. All those preceding the *Entomostraca* in arrangement came under the notice of the former gentleman, and all of these (using the term in its widest sense) under that of the latter. To both, my warmest thanks are due, as they also are to John Edward Gray, Esq., for his extreme kindness and liberality on this, as on all former occasions, when I required to make use of the great national collection of zoology placed under his most zealous and effective superintendence.

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XXIII.—*Descriptions of some species of Brachiopoda.* By Mr. T. DAVIDSON, Mem. Geol. Soc. France, and Mr. J. MORRIS, F.G.S.

[With two Plates.]

THE following notice includes descriptions of a few new or little-known Brachiopoda, some of which are interesting from their localities and associations, more especially the *Leptana*, of which three species have lately been found in the liassic group of England and one in that of France. For the description of the French species we are indebted to M. Bouchard, whose collection contains good specimens of this shell.

*Leptana liasiana*, Bouchard. Pl. XVIII. fig. 2 *a—d*.

Shell rounded, inequivalved, equilateral, smooth; dorsal valve gibbose posteriorly, becoming flatter anteriorly, with a slight longitudinal groove ending in a notch on the front margin of the shell. Beak small, slightly incurved, truncated at the apex by a minute circular foramen, similar to that which occurs in many other *Leptana*, for instance, *L. alternata* of Indiana, North America; this truncation may also be observed in some species of *Orthis* from Russia. Area double, interrupted on the dorsal valve by a large and slightly convex deltidium, which arises at the apical opening and gradually enlarges towards the base, and occupies one-third of the width of the area. The deltidium is slightly notched, the notch being partly closed by the large median tooth of the ventral valve, the exterior face of which is grooved by four furrows which afforded a passage for the muscular fibres of attachment arranged in four bundles. The ventral valve is deeply concave, following the contour of the dorsal valve, so that little space remained between them for the body of the animal. Cardinal margin about half the width of the shell. Length 6, width 5 millimetres.

Locality: the lias of Pic de Saint Loup, near Montpellier, Herault.